

Amendments to the Abstract:

Please replace the Abstract with the following amended Abstract:

The invention uses one inductor, which is ~~comprised~~formed of one, two or a few twisted or parallel conductors, and exposes ~~the~~a sample object in a pulsed and damped alternating magnetic field B -(B) without necessarily the employment of a second, constant intensity, magnetic field. In this way, the nuclei and/or the electrons of the ~~sample-object~~ sample object are activated, in the presence of a non-constant magnetic field B -(B), that gets infinite negative and positive values between successive damped positive and negative values, crossing through the zero value during a magnetic pulse. Thus, a wide nuclear NMR and ~~Electronic-EPR Multiple-Resonance~~ electronic EPR multiple – resonance of the sample object, is achieved.